

What is claimed is:

- Sub 1
1. A light emitting diode driving circuit comprising:
    - a control pulse signal generator for generating a control pulse signal having a variable duty factor;
    - a smoothing circuit for smoothing said control pulse signal to generate a control voltage;
    - a driving circuit for generating a driving voltage according to said control voltage and supplying a forward current to said light emitting diode; and
    - a switching circuit for interrupting the forward current of said light emitting diode in response to said control pulse signal.
  2. A circuit according to claim 1, wherein said control pulse signal generator comprises:
    - a light adjustment pulse signal generating circuit for generating a light adjustment pulse signal of a duty factor according to a light adjustment amount; and
    - a control pulse signal generating circuit for setting a pulse signal obtained by adjusting the duty factor of said light adjustment pulse signal to said control pulse signal.
  3. A circuit according to claim 2, wherein said switching circuit interrupts the forward current of said light emitting diode in response to said light adjustment pulse signal in place of said control pulse signal.
  4. A circuit according to claim 1, further comprising:
    - a minimum control voltage generating circuit for generating a predetermined minimum control voltage; and

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a control voltage switching circuit for setting said minimum control voltage to the control voltage of said driving circuit in place of said control voltage when said control voltage drops to a predetermined value or lower.

5. A light emitting diode driving circuit comprising:

a control pulse signal generator for generating a control pulse signal having a variable duty factor;

a smoothing circuit for smoothing said control pulse signal to generate a control voltage;

a driving circuit for generating a driving voltage according to said control voltage and supplying a forward current to said light emitting diode;

a minimum control voltage generating circuit for generating a predetermined minimum control voltage; and

a control voltage switching circuit for setting said minimum control voltage to the control voltage of said driving circuit in place of said control voltage when said control voltage drops to a predetermined value or lower,

wherein said control pulse signal generator includes

a light adjustment pulse signal generating circuit for generating a light adjustment pulse signal of a duty factor according to a light adjustment amount, and

a control pulse adjusting circuit for adjusting change characteristics of the duty factor of said light adjustment pulse signal and generating said control pulse signal.